

THE NAUTILUS

Vol. 53

October, 1939

No. 2

COLLECTING ON A CORAL REEF IN FLORIDA

BY THOMAS L. MCGINTY

For some time we had talked of a combined shell collecting and diving trip to the great coral reef which lies just off the Florida Keys and on the edge of the Gulf Stream. After considerable study of the nautical charts a mere speck of land about eight miles southeast of Key West and some five miles from the nearest land was chosen as a base for our operations. A local boatman agreed to maroon us upon our chosen desert island for four days, after which time, weather permitting, he would return to carry us back to the mainland.

On June 19th we reached our destination, Middle Sambo Shoal, and were surprised to find it even smaller than we had expected. Our row-boat, collecting equipment, diving gear and camp supplies were carried ashore, the boatman waved a farewell salute and departed, and we began life as three Robinson Crusoes.

When camp was established there remained only a few feet between our tent and the nearby Atlantic and because of the numerous turtle "crawls" everywhere in evidence it was decided to provide some form of barricade to discourage, if possible, the big fellows from flattening the tent to the annoyance of those within. Even as we worked, a huge loggerhead laboriously came up out of the sea to inspect the island for later use.

In the afternoon, at low tide, much of the reef was exposed and our domain had more than doubled in size. Here were ideal collecting conditions with loose rocks and corals of all sizes which had been broken off the main reef by previous hurricanes. The water was marvelously clear, so with diving goggles we enjoyed a sort of pre-view of the breath-taking beauty which the wonders

of the reef afford. Later with the diving-helmet we were free to move about on the ocean floor and allowed to enjoy in perfect comfort the indescribable beauty of the underwater world.

The largest and finest of the Florida star shells, *Astraea caelata*, was abundant in crevices and under rocks in all the varied stages of growth. Also present were *Mitra barbadensis* and the fast moving *Pisania pusio*; a species of *Epitonium* lived buried in the sand among the rocks and *Cassis testiculus* was found in its favorite station under the larger stones. *Cypraea spurca* and an occasional *Cypraea cinerea* with lovely mantles extended were hidden and waiting to resume their nocturnal habits. The pretty little *Engina turbinella* had found a home to its liking under rocks in shallow water and lived in neighborly fashion with *Arca*, *Cantharus*, *Littorina*, *Planaxis* and *Modulus*. It was a real thrill to turn over a stone and find whole colonies of *Nitidella nitidula*, *Pyrene mercatoria* and *Tegula semigranosa*. Various limpets were left exposed clinging to the rocks, *Aemaca* and *Fissurella*. Occasionally under stones could be had *Lucapina*, *Submarginula* and the pretty little *Diadora minuta*. Large *Conus mus* and that beauty, *Conus nebulosus*, were hidden beneath loose coral. The red colored animal of *Conus nebulosus* was rather shy but often a patient observer could see the action of the poison barb. This single edged barb is really a very highly developed tooth of the radula and there seems to be little doubt that its function is to assist the slow moving carnivorous animal in procuring food rather than for protection from its enemies. Care should be taken in the handling of members of this genus until it can be determined whether the Conidae of Florida are dangerous to man.

Just to the east of our island, where the bottom was grassy, we walked on the ocean floor in the diving-helmet. Conditions here were perfect for the large *Strombus gigas*, judging by their abundance. Occasional *Cassis madagascarensis* and *Cassis tuberosa* were observed fully extended and searching for prey. *Triton nobilis*, one of the most attractive of the larger West Indian molluscs, concealed itself under large hollow corals.

Exploring the outer reef through the medium of the diving gear was a constant source of joy and thrills, for here was all the amazing beauty of a coral reef in a tropic sea. Gorgeous colored

fish of varied size and shape, graceful waving sea-fans, together with an astonishing abundance of many other forms of sea life, made a picture so dazzling in color that once seen it could never be forgotten. Several species of gorgonians were observed and clinging to some was a living cargo, the pretty leopard-spotted *Cyphoma gibbosa*. *Spondylus* and *Chama* were so well camouflaged that a movement of the valves or a glimpse of exposed mantle was needed to distinguish them from their surroundings of multi-hued marine growth. Rarely among the living coral could be seen *Coralliophila abbreviata* or the graceful *Calliostoma jujubinum*.

There were thrills too, for the great barracuda found the coral reef with its abundant food supply to his liking. On one occasion while below, the writer decided to shift the anchor and tow the boat above to unexplored territory. After completing the task a glance towards the surface disclosed an alarming sight. Intently watching and quite motionless were no less than ten huge barracuda, so close that the round spots on their horizontal bodies were clearly visible. It was a *long* trek back to the descending line with spinal shivers all the way, and needless to say diving was discontinued for the day.

The story of the island could hardly be complete without mentioning the hermit crabs. Great legions of them, in all manner of shells, at times came out of the sea. They became bedfellows at night and one even sampled a collecting hat in its search for food. We expressed our thanks only to those in fine homes which now have a place in the collection.

This more or less continuous reef off the Florida Keys presents to the collector almost unlimited possibilities. It is a field which has been touched in but few places. Much of the area can only be worked with the aid of diving gear but there are places favorable for shallow water work. Here, given time and luck, one may well hope to make new discoveries or at least to add some bit to the knowledge of the undersea life at the edge of the Gulf Stream.

The writer is tremendously indebted to the other members of our party, Mr. Orrin Randolph, an experienced diver who furnished the diving equipment, and Mr. Burner Haag. Without their companionship and helpfulness this trip would not have been possible.